SunBriteTV

All-Weather Outdoor LCD Television

Operator's Manual

Model SB2310HD and SB2310-Pro

HERMA

April2010v1 (Revision 2310-070615)

Dear SunBriteTV Customer:
Congratulations on your ownership of the SunBriteTV Model 2310HD. This product is designed as a weatherproof LCD television that can be installed outdoors. To ensure safety and minimize mechanical malfunctions of your product, please read the Important Safety Instructions carefully before using this product.

IMPORTANT SAFETY INSTRUCTIONS

1) Read these instructions.

2) Keep these instructions.

3) Heed all warnings.

4) Follow all instructions.

5) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

6) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

7) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

8) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where the cord exits from the apparatus.

9) Only use attachements/acessories specified by the manufacturer.

10) Use only the cart, stand tripod, bracket, or table specified by the manufacturer, or sold with the aparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

11) Unplug this apparatus during lightning storms or when unused for long periods of time.

12) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

WARNING: TV must be plugged into a GFCI receptacle.
TV and GFCI RECEPTACLE MUST BE INSTALLED NO LESS THAN 5 FEET FROM ANY BODY OF WATER (SUCH AS POOL OR SPA). Check local building codes for proper installation guidelines.

WARNING: This unit is equipped with a 3-pin grounded plug. The plug will only fit into a grounded power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician. Do not alter this plug, as this will defeat the safety feature.

WARNING: The mains plug is used as the disconnect device and shall remain readily operable.

WARNING: This product shall be connected to a mains socket outlet with a protective earthing connection.

CAUTION: TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

WARNING: FCC Regulations state that any unauthorized changes or modifications to this equipment not expressly approved by the manufacturer could void the user's authority to operate this equipment.

NOTE TO CATV SYSTEM INSTALLER: This reminder is provided to call the CATV system installer's attention to Article 820-40 of the National Electrical Code that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

WARNING: To reduce the risk of fire or electric shock, do not expose the inside of this apparatus to rain or moisture.
The inside of this apparatus shall not be exposed to dripping or splashing, and no objects filled with liquids, such as vases, shall be placed on the apparatus.

This product utilizes tin-lead solder, and fluorescent lamp containing a small amount of mercury. Disposal of these materials may be regulated due to environmental considerations. For disposal or recycling information, please contact your local authorities or the Electronic Industries Alliance: www.eia.org.

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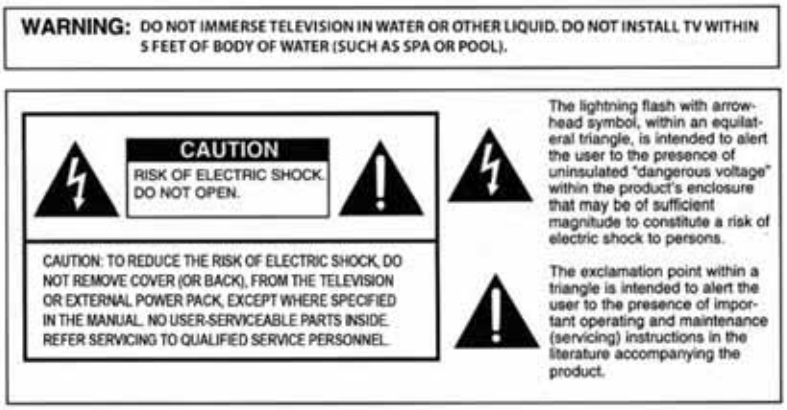
Cleaning Instructions: Use a soft cloth with mild detergent in warm water to clean the SunBriteTV screen. Remove any dirt and salt deposits from the unit, being careful to rinse the cloth frequently to avoid scratching the screen surface. Avoid using harsh chemicals, abrasives, or solvents when cleaning any surface on the screen. Use a soft brush or towel to remove snow and ice from the TV. In areas where dust or salt air is prevalent, it is recommended that the fiber filter be cleaned regularly (see instructions on Page 41).

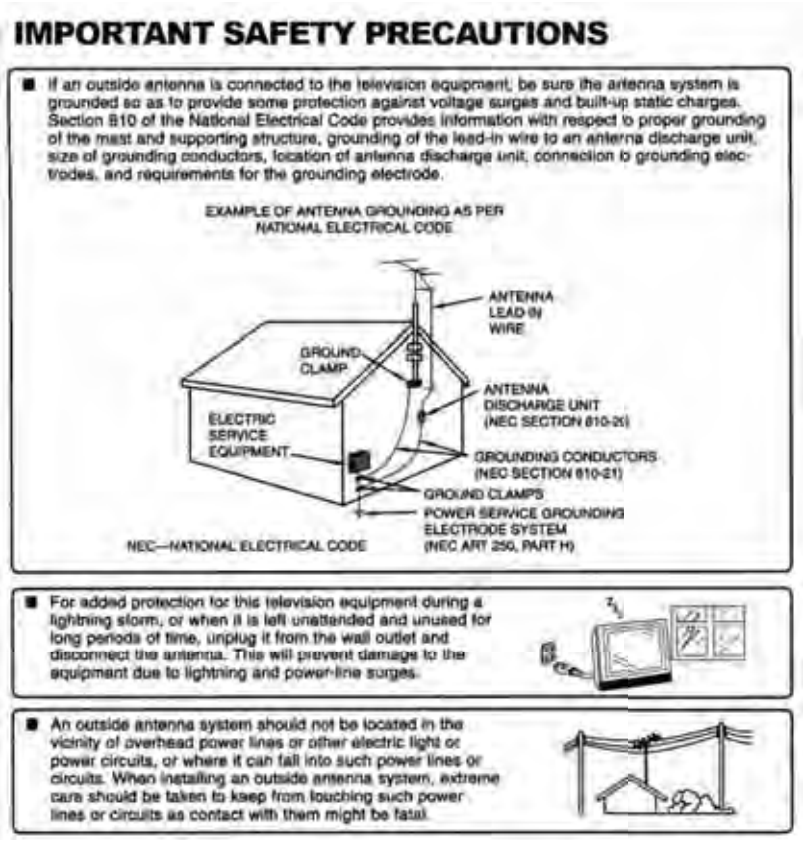
Attachments: Do not use attachments not specifically recommended by the manufacturer. Use of improper attachments can result in accidents.

Power Source: SunBriteTV must operate on a power source indicated on the specification label. If you are not sure of the type of power supply used in your home, consult your dealer or local power company. When using the TV outdoors, you must use a GFI-protected AC outlet with "in-use" waterproof cover.

Installation: Do not place the product on an unstable cart, stand, tripod, table, or anywhere the unit is not permanently installed. Placing the product on an unstable place can cause the product to fall, resulting in potential serious personal injuries, as well as damage to the product.

Precautions when Transporting the TV: Carrying the television requires at least two people.


WARNING: DO NOT IMMERSE TELEVISION IN WATER OR OTHER LIQUID. DO NOT INSTALL TV WITHIN 5 FEET OF BODY OF WATER (SUCH AS SPA OR POOL).
CAUTION
RISK OF ELECTRIC SHOCK. DO NOT OPEN.
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). FROM THE TELEVISION OR EXTERNAL POWER PACK, EXCEPT WHERE SPECIFIED IN THE MANUAL. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.
The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.
The exclamation point within a triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.


IMPORTANT SAFETY PRECAUTIONS
If an outside antenna is connected to the television equipment, be sure the antenna system is grounded so as to provide some protection against voltage surges and built-up static charges. Section 810 of the National Electrical Code provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.
EXAMPLE OF ANTENNA GROUNDING AS PER NATIONAL ELECTRICAL CODE
ANTENNA LEAD-IN WIRE
GROUND CLAMP
ANTENNA DISCHARGE UNIT (NEC SECTION 810-20)
ELECTRIC SERVICE EQUIPMENT
GROUNDING CONDUCTORS (NEC SECTION 810-21)
GROUND CLAMPS
POWER SERVICE GROUNDING ELECTRODE SYSTEM (NEC ART 250, PART H)
NEC—NATIONAL ELECTRICAL CODE
For added protection for this television equipment during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna. This will prevent damage to the equipment due to lightning and power-line surges.
An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.

FCC Statement

This equipment complies with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
4. Consult the dealer or an experienced radio/TV technician for help.

Modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment under FCC rules. This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

Tested To Comply with FCC Standards
FOR HOME OR OFFICE USE

Ventilation: Adequate ventilation must be maintained to ensure reliable and continued operation and to protect the television from overheating. Do not block ventilation slots and openings with objects, or install the television in a place where ventilation may be hindered. **SunBriteTV is not designed for built-in installation.** Do not place the product in an enclosed place such as bookcase or rack.

Power cord protection: The power cord must be routed properly to prevent people from stepping on it, or objects from resting on it. Check the cords at the plugs and product.

Power source: This product must operate on a power source specified on the specification label. If you are unsure of the type of power supply used in your home, consult your dealer or local power company.

Do not let metal pieces or objects of any kind fall into the television from ventilation holes. High voltage flows in the product, and inserting an object can cause electric shock and/or short internal parts.

Do not mount SunBriteTV near a motor or transformer where strong magnetism is generated. Images on the television will become distorted and the color irregular.

Do not mount SunBriteTV near heat sources such as radiators, heaters, stoves and other heat-generating products (including amplifiers).

Do not submerge SunBriteTV in water: The SunBriteTV will resist water exposure from normal rain, sprinklers, garden hoses, etc.; however, it is not designed to be submerged in water.

Do not pressure-wash SunBriteTV: SunBriteTV will resist water exposure from normal rain, sprinklers, garden hoses, etc.; however, it is not designed to withstand pressure washers, high-pressure water jets, or hurricane-type weather.

Do not service SunBriteTV yourself: Removal of the television screen cover may expose you to high voltage or other dangerous risks. Refer all servicing to a qualified service professional. Warranty will not be honored if you service the unit yourself.

Repair: If any of the following conditions occurs, unplug the power cord, and call a qualified service professional to perform repairs:

When power cord or plug is damaged.

When objects have fallen into the product.

If unit was submerged in water or pressure-washed.

When product does not operate properly as described in the operating instructions. Do not touch the controls other than as described in the operating instructions. Improper adjustments of controls not described in the instructions can cause damage, which can require extensive repair work by a qualified technician.

When the product has been dropped or damaged.

When the product displays an abnormal condition. Any noticeable abnormality in the product indicates that the product needs servicing.

Replacement parts: In case the product needs replacement parts, make sure that the service person uses replacement parts provided by SunBriteTV. Use of unauthorized parts can result in fire, electric shock and/or other danger.

Safety checks: Upon completion of service or repair work, ask the service technician to perform safety checks to ensure that the product is in proper operating condition.

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Supplied Accessories

Unpacking

After unpacking the SunBriteTV television, please make sure that the following items are included in the carton and that they are in good condition. If items are damaged or missing, contact your dealer immediately.

SunBriteTV LCD Television Model 2310HD
Remote Control with Batteries
Operator's Manual
Table Stand Installation Kit

Model 2310HD

Operator's Manual

Water-Resistant Wireless Remote Control with Lithium Batteries

Table Stand Installation Kit

TV Installation

Choose a Location for the TV:

Important: The TV must be installed at least 5 feet from pool, spa, or other body of water.

The TV should be installed so the screen is *not* facing direct sunlight, or can be easily turned away from direct sunlight. (Installing the TV on an articulating mount is recommended for best viewing flexibility.)

If the sun shines directly on the screen for long periods of time, dark areas may develop on the screen. This is a normal reaction for the LCD panel, and will not cause damage to the screen. Either turn the screen away from the sun, or apply shade to the TV, and the dark areas will quickly disappear.

Table Stand Instructions:

Note: Do not attach the Table Stand if you plan to install the TV on a wall mount.

Table Stand Installation Kit includes:
4 washers
2 Feet

Note: *You will need a Phillips screwdriver to install the Table Stand.*

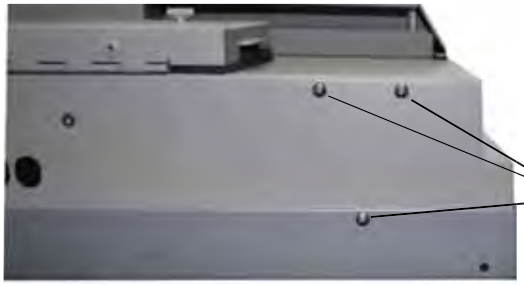


Figure 1

Table Stand Instructions (continued)

1. Prepare a flat work surface, free of any debris or items which may scratch the front surface of the TV.
2. Lay the TV face-down on the work surface with the bottom of the unit closest to you.
3. Position the TV so that bottom edge overhangs the table by about one inch.

Table Stand Placement Holes are located on the bottom of the TV. The three Placement Holes form a triangle, with two Holes on the top and one on the bottom (Figure 1). There is one set of Placement Holes for each Foot.

Figure 2

Instructions for Table Stand (for right side of the TV, as you look at the TV face down).

Note: The TV has been shipped with the Table Stand Screws already in place (Figure 1).

1. Unscrew the three Table Stand Screws from the TV (Figure 2).
2. With the bottom of the Foot facing you, align the upper-right Foot Hole to the upper-right Placement Hole on the TV.
3. Place the Screw in the Foot hole, place the Washer on the Screw (Figure 3).
4. With a Phillips screwdriver, attach the Foot and Washer to the TV. Turn the Screw tightly enough to hold the foot in place, but loosely enough that the Foot can rotate easily.
5. Rotate the Foot so that the upper-left Foot Hole is clear of the TV (Figure 4).
6. Place the Screw in the upper-left Foot Hole, place the Washer on the Screw (Figure 5).
7. Rotate the Foot back to align the upper-left Foot Hole with the upper-left Placement Hole. Attach the Foot and Washer to the TV. Turn the Screw tightly enough to hold the foot in place (Figure 6).
8. Align the bottom Foot Hole to the bottom Placement Hole, insert screw (without a washer) and secure tightly.
9. Tighten all Screws securely.

Using the above instructions, install the Foot for the left side of the TV (Figure 7).

Figure 3

Figure 4

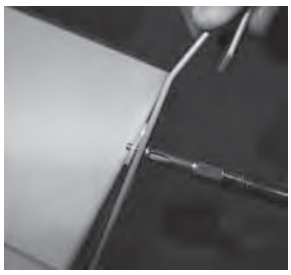


Figure 5

Figure 6

Figure 7

TV Installation – Rear Panel Connections

WARNING: Do not connect the power source before making connections.

Internal Connect Source

The Internal Connect Source allows you to easily connect to the Audio, Video, S-Video, SVGA, HDMI, Audio Out, and RF connectors. The Internal Connect Source is inside the Cable Cover located on the back of the unit (Figure1).

1. Unscrew the two gray Thumb Screws (Figure1), and pull the cover towards you.

2. Route the cables to the proper inputs, and place the cable cords over the Rubber Sealing Gasket (Figure 2).

Note: There is an Indentation on the Rubber Sealing Gasket (on the bottom portion of the right and left sides). Make sure cable cords are not placed on the Indentation.

3. Close the cover.

4. Press firmly on the cover, and screw the Thumb Screws tightly (Figure3).

Figure 1

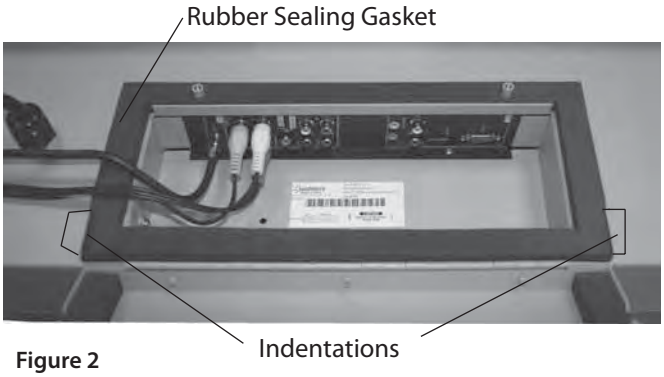


Figure 2

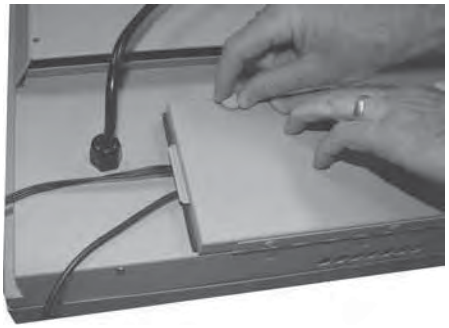


Figure 3

LINE OUT - This connection port is used for sending out audio signals to other audio devices such as stereo/surround sound receivers and sending out video signals to other video device such as TV monitor or VCR. The red (R) and white (L) connectors send out the audio signal. The yellow (AV OUT) connector sends out the video signal. The orange (COAXIAL SPDIF OUT) connector sends out either bit-stream or PCM digital sound signal to a home theater receiver with digital input. This connection uses RCA audio cable for sound, composite cable for video, and a coaxial cable for digital out. Please note : You can only use the red/white connection or the orange one. Do NOT connect both.

HDMI – Connects to devices that use HDMI cable, such as Blu-ray or HD DVD player, or HD cable / satellite set-top box. This connection port receives pure digital audio and high definition signal through one single cable. This port also can accept a HDCP video device for video.

VGA - This connection port connects to a PC for video using VGA cable. Be sure to connect your audio cable to the VGA Stereo input if you want sound out of VGA video source.

VGA STEREO INPUT - This connection port is for people who want to provide audio to the TV when using a PC or a DVI video device. The sources use 3.5mm mini-jack audio cable to provide audio for a HDCP enabled DVI video device or PCs with VGA connection.

COMPONENT 1 & 2 (YPbPr with Audi L/R) – These connection ports are for DVD players, or satellite / cable set-top boxes that use component cables. From left to right, connect green, blue, and red for video, and then connect white for left channel audio, and red for right channel audio.

COMPOSITE - Connects to devices that use composite video cables such as VCR or camcorder or video game consoles. The S-Video connector is associated with AV1's video. Please connect the video portion with either the yellow connector or the S-Video connector. Do NOT connect both video connectors.

ATSC/NTSC – This connection is for digital or analog cable without the cable box or over-the-airwave antennas. The tuner is a hybrid tuner that tunes to both analog and digital channels. This connection uses coaxial RF cable. For over-the airwave digital stations please check HTUhttp://www.antennaweb.org

TV Installation – Rear Panel Connections

Connection Descriptions:

Port Quality & Name	Port Picture	Cable Used & Resolution	Devices that use this Port
Best HDMI (Digital HD Capable)		HDMI 1080i, 720p, 480p, 480i	Blu-ray DVD Player, HD-DVD Player, High Definition Cable or Satellite Set-top Box, HDCP devices
Best/Fair ATSC/NTSC (Digital HD Capable)		Coaxial RF 1080i, 720p, 480p, 480i	Antenna or Digital Cable with out the cable box
Best VGA (HD Capable)		VGA 1360x768 or lower	PC or MAC with VGA connection
Better COMPONENT 1 & 2 (HD Capable)		Component 1080i, 720p, 480p, 480i	DVD Player, Video Game Console, High Definition Cable or Satellite Set-top Box
Good COMPOSITE (Non-HD)		S-Video 480i only	Non High Definition Cable or Satellite Set-top Box, S-Video VCR
Fair COMPOSITE (Non-HD)		Composite 480i only	Non High Definition Cable or Satellite Set-top Box, VCR, Old Game Console, Camcorder

Port Quality, Type & Name	Port Picture	Cable Used & Resolution	Devices that use this Port
Good VGA STEREO INPUT (Audio)		3.5mm mini-jack	HDCP devices, PC, MAC
Best LINE OUT (Digital Audio)		Coaxial SPDIF	Receiver with Digital Surround Sound Decoding
Not Available		Service Port	This port is for Sceptre technicians only.
Good LINE OUT (Audio)		RCA Audio	Any Stereo or Better Receiver, VCR, or DVR
Fair LINE OUT (Non-HD)		Composite 480i only	VCR, or DVR

Cable Descriptions:

Cable Name	Cable Picture
HDMI	
Coaxial RF	
VGA	
Component	Red Green Blue
S-Video	
Composite	Yellow
3.5 mm Mini-jack	Green
RCA Audio	Red White
AC Power	
Coaxial SPDIF	

Switching Sources for Ports:

Modeol 2310HD offers several options when connecting your devices to the TV. The chart below will help you understand which source you switch to for each of the ports.

Port Picture	Cable Used	Source Name to Switch to
	HDMI or HDMI-DVI	HDMI
	COAXIAL RF	TV (CABLE / AIR)
	VGA	VGA
	COMPONENT	YPBPR1 or YPBPR2
	S-VIDEO	AV1 (S-VIDEO)
	COMPOSITE	AV1 (CBVS)

CONNECTING TO AN ANTENNA

Connecting to Digital Cable without Cable Box or Antenna

1. Make sure the power to the TV is turned off.
2. Connect the Coaxial RF cable from your antenna or digital cable to the ATSC/NTSC port off the back of your the TV.
3. Turn on the TV.
4. Select TV (Air) for antenna or TV (Cable) for digital cable from either your remote control's source button or source button on the right side of the TV.
5. Use the On-Screen Display to scan for channels.

Connecting to Cable or Antenna

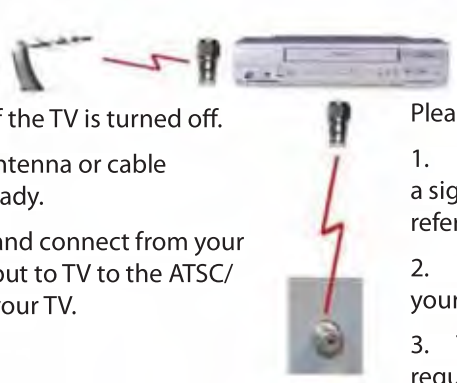
1. Make sure the power of the TV is turned off.
2. Connect the Coaxial RF cable from your antenna or cable to the ATSC/NTSC port off the back of your TV.
3. Turn on the TV.
4. Select TV (Air) for antenna or TV (Cable) for cable from either your remote control's source button or source button on the right side of the TV.
5. Use the On Screen Display to scan for channels.

Please Note :

1. Not all broadcasts are in High Definition (HD). Please refer to your local broadcasting stations for more information.
2. The TV's tuner is designed for HDTV therefore requires a stronger signal than normal TVs. If you cannot achieve that signal level with your antenna or cable, your X23TV might lose picture or sound.

CONNECTING TO AN ANTENNA--(Continued)

Connecting to Cable or Antenna through VCR



1. Make sure the power of the TV is turned off.
2. Make sure there is an antenna or cable connection to the VCR already.
3. Use a Coaxial RF cable and connect from your VCR's Antenna Out or Output to TV to the ATSC/ NTSC port off the back of your TV.
4. Turn on the TV.
5. Select TV (Air) for antenna or TV (Cable) for digital cable from either your remote control's source button or source button on the TV.
6. Use the On-Screen Display to scan for channels.

Please Note :

1. Some VCRs must be turned On before its output will have a signal to the TV. Please consult your VCR manual for further reference.
2. Not all broadcasts are in High Definition (HD). Please refer to your local broadcasting stations for more information.
3. The MODEL 2310HD's tuner is designed for HDTV therefore requires a stronger signal than normal TVs. If you cannot achieve that signal level with your antenna or cable, the TV might lose picture or sound.

CONNECTING TO A DVD PLAYER

Connecting with HDMI (Best)

1. Make sure the power of the TV and your DVD player is turned off.
2. Connect a HDMI cable to the HDMI port of your DVD player and the other end to the HDMI port off the back of your TV.
3. Turn on the TV and your DVD player.
4. Use the remote control's source button or the source button on the TV to switch to HDMI.

Please Note :
Refer to the DVD player's manual to make sure the DVD player is configured to output correctly to the TV.

Connecting with Component (Better)

1. Make sure the power of TV and your DVD player is turned off.
2. Obtain a Component Cable. Connect the green color connector to both your DVD player and Component 1's green connector port off the back of your TV.
3. Connect the blue color connector to both your DVD player and Component 1's blue connector port off the back of your TV.
4. Connect the red color connector to both your DVD player and Component 1's red connector port off the back of your TV.
5. Obtain a RCA Audio Cable. Connect the white color connector to both your DVD player and Component 1's white connector port off the back of your TV to the right side of your green, blue, red component connection.
6. Connect the red color connector to both your DVD player and Component 1's red connector port off the back of your TV to the right side of your green, blue, red component connection.
7. Turn on the TV and your DVD player.
8. Use the remote control's source button or the source button on the TV to switch to YPbPr1.

Please Note :

1. If Component 1 is already occupied, please use Comp-onent 2 as your connection port and switch to source YPbPr2.
2. Refer to the DVD player's manual to make sure the DVD player is configured to output correctly to the TV.

CONNECTINGTO A DVD PLAYER (Continued)

Connecting with S-Video (Good)

1. Make sure the power of the TV and your DVD player is turned off.

2. Obtain an S-Video Cable. Connect the S-Video connector to both your DVD player and Composite's S-Video connector port off the back of your MODEL 2310HD.

3. Obtain a RCA Audio Cable. Connect the white color connector to both your DVD player and Composite's white connector port off the back of your MODEL 2310HD.

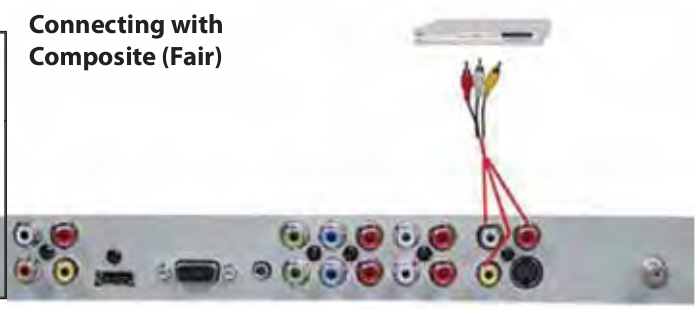
4. Connect the red color connector to both your DVD player and Composite's red connector port off the back of your TV.

5. Turn on the TV and your DVD player.

6. Use the remote control's source button or the source button on the right side of the TV to switch to AV1 (S-Video).
Please Note :

1. Make sure the yellow connector in the same group is not connected. You can only connect either the S-Video port or the Yellow Video connector port. DO NOT CONNECT BOTH.
2. Please reference the DVD player's manual as well, to make sure the DVD player is configured to output correctly to the TV.

Connecting with Composite (Fair)



1. Make sure the power of the TV and your DVD player is turned off.

2. Obtain a Yellow Video Cable. Connect the Yellow Video connector to both your DVD player and Composite's Yellow Video connector port off the back of your TV.

3. Obtain a RCA Audio Cable. Connect the white color connector to both your DVD player and Composite's white connector port off the back of your TV.

4. Connect the red color connector to both your DVD player and Composite's red connector port off the back of your TV.

5. Turn on the TV and your DVD player.

6. Use the remote control's source button or the source button on the right side of the TV to switch to AV1 (CVBS).

Please Note :

1. Make sure the yellow connector in the same group is not connected. You can only connect either the S-Video port or the Yellow Connector port. DO NOT CONNECT BOTH.
2. Please reference the DVD player's manual as well, to make sure the DVD player is configured to output correctly to the TV.

CONNECTING TO A SATELLITE OR CABLE SET-TOP BOX

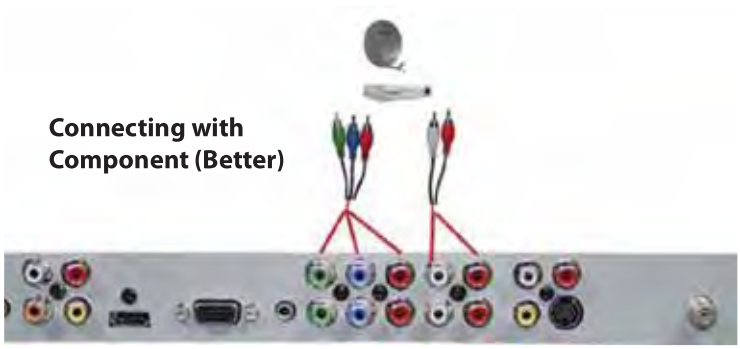
Connecting with HDMI (Best)

1. Make sure the power of the TV and your set-top box is turned off.
2. Connect a HDMI cable to the HDMI output of your set-top box and the other end to the HDMI port off the back of your TV.
3. Turn on the MODEL 2310HD and your set-top box.
4. Use the remote control's source button or the source button on the right side of the TV to switch to HDMI.

Please Note :

1 Please refer to the set-top box's manual, to make sure the set- top box is configured to output correctly to the TV.
2 SunBriteTV's MODEL 2310HD supports SONY's universal remote code. Please look up SONY's codes in your universal remote's hand book.

Connecting with Component (Better)



1. Make sure the power of TV and your set-top box is turned off.

2. Obtain a Component Cable. Connect the green color connector to both your set-top box and Component 1's green connector port off the back of your TV.

3. Connect the blue color connector to both your set-top box and Component 1's blue connector port off the back of your TV.

4. Connect the red color connector to both your set-top box and Component 1's red connector port off the back of your TV.

5. Obtain a RCA Audio Cable. Connect the white color connector to both your set-top box and Component 1's white connector port off the back of your TV to the right side of your green, blue, red component connection.

6. Connect the red color connector to both your set-top box and Component 1's red connector port off the back of your TV to the right side of your green, blue, red component connection.

7. Turn on the TV and your set-top box.

8. Use the remote control's source button or the source button on the TV to switch to YPbPr1.

Please Note :

1. If Component 1 is already occupied, please use Component 2 as your connection port and switch to source YPbPr2.

2. Please refer to the set-top box's manual to make sure the set-top box is configured to output correctly to the TV.

3. SunBriteTV's MODEL 2310HD supports SONY's universal remote code. Please look up SONY's codes in your universal remote's hand book.

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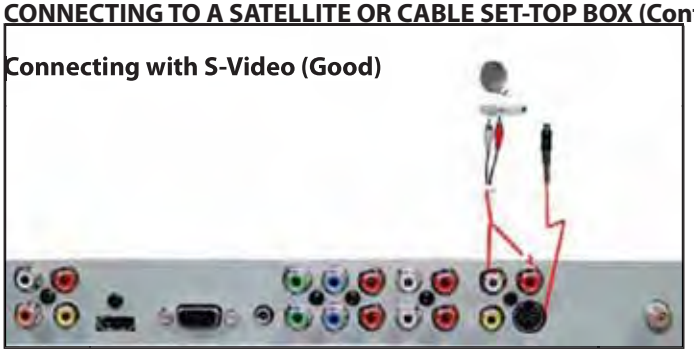
CONNECTING TO A SATELLITE OR CABLE SET-TOP BOX (Continued)

Connecting with S-Video (Good)



1. Make sure the power of the TV and your DVD player is turned off.

2. Obtain an S-Video Cable. Connect the S-Video connector to both your DVD player and Composite's S-Video connector port off the back of your MODEL 2310HD.

3. Obtain a RCA Audio Cable. Connect the white color connector to both your DVD player and Composite's white connector port off the back of your MODEL 2310HD.

4. Connect the red color connector to both your DVD player and Composite's red connector port off the back of your TV.

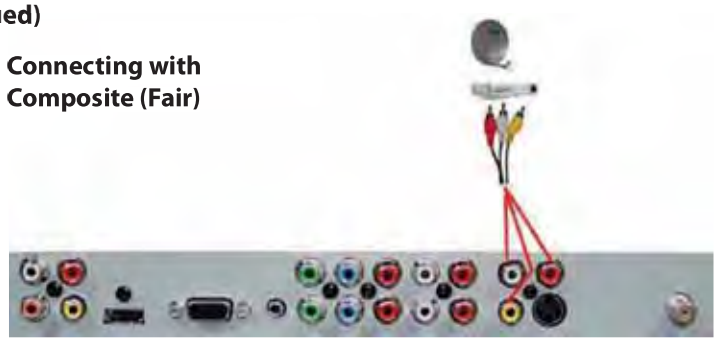
5. Turn on the TV and your DVD player.

6. Use the remote control's source button or the source button on the right side of the TV to switch to AV1 (S-Video).

Please Note :

1. Make sure the yellow connector in the same group is not connected. You can only connect either the S-Video port or the Yellow Video connector port. DO NOT CONNECT BOTH.
2. Please reference the DVD player's manual as well, to make sure the DVD player is configured to output correctly to the TV.

Connecting with Composite (Fair)



1. Make sure the power of the TV and your DVD player is turned off.

2. Obtain a Yellow Video Cable. Connect the Yellow Video connector to both your DVD player and Composite's Yellow Video connector port off the back of your TV.

3. Obtain a RCA Audio Cable. Connect the white color connector to both your DVD player and Composite's white connector port off the back of your TV.

4. Connect the red color connector to both your DVD player and Composite's red connector port off the back of your TV.

5. Turn on the TV and your DVD player.

6. Use the remote control's source button or the source button on the right side of the TV to switch to AV1 (CVBS).

Please Note :

1. Make sure the yellow connector in the same group is not connected. You can only connect either the S-Video port or the Yellow Connector port. DO NOT CONNECT BOTH.
2. Please reference the DVD player's manual as well, to make sure the DVD player is configured to output correctly to the TV.

CONNECTING TO AN EXTERNAL SURROUND SOUND RECEIVER

Connecting with Coaxial SPDIF Digital (Best)

1. Make sure the power of the TV and your receiver is turned off.
2. Obtain a Coaxial SPDIF cable, connect it to your receiver's coaxial SPDIF digital input and the Coaxial SPDIF connection on the LINE OUT port off the back of the TV.
3. Turn on the TV and your receiver.

Please Note :

1. If you want pure digital stream for your receiver to decode, you must also configure the TV's OSD Sound->Digital Audio Out function. Make sure the option is on Bit Stream.
2. If your receiver is making static noises when receiving Bit Stream, you must use the PCM option instead.
3. Refer to the receiver's manual to make sure the receiver is configured to receive signals correctly from the TV

Connecting with RCA Audio Analog (Good)

1. Make sure the power of the TV and your receiver is turned off.
2. Obtain a RCA Audio cable, connect it to your receiver's RCA audio analog input and the RCA Audio connection on the LINE OUT port off the back of the TV.
3. Turn on the TV and your receiver.

Please Note :

Refer to the receiver's manual to make sure the receiver is configured to receive signals correctly from the TV.

CONNECTING TO A PC

1. Make sure the power of the TV and your PC is turned off.
2. Obtain a 15-pin D-Sub VGA cable, connect to the VGA output of your PC and the other end to the VGA port off the back of your TV.
3. Obtain a 3.5 mm Mini-jack, connect to the audio out of your PC and the other end to the VGA Stereo Input port.
4. Turn on the power of the TV and your PC.
5. Use the remote control's source button or the source button the TV to switch to VGA.
6. Change your PC resolution to 1360x768 at 60hz refresh rate.
7. Press MENU to use the OSD's SETUP option.
8. Under the SETUP option select PC function.
9. Under PC function use AUTO ADJUST to adjust the screen, AUTO COLOR to adjust the color and use PREF. RESOLUTION to select 1360x768 at 60hz.

Please Note :

1. For the best results, please set your PC resolution to 1360x768 at 60 Hz. Refer to the PC or graphic card's manual for further instructions on how to set your resolution and refresh rate.
2. Refer to your PC manual for video output requirements of the video card.

Connecting the Power Cord

WARNING:
TV AND GFCI RECPTACLE MUST BE INSTALLED AT LEAST 5 FEET AWAY FROM STANDING WATER , SUCH AS (BUT NOT LIMITED TO) A POOL OR SPA.
Connect the power cord after you have made connections to your video equipment.

Connect the power cord to a GFCIprotected AC outlet with "in-use" waterproof cover.

Warning: TV must be installed at least 5 feet away from standing water, such as (but not limited to) a pool or spa.

Front Panel

Power	Turns TV on/off.
Menu	Displays the On-Screen Display (OSD) menu. In OSD menu, press key to return to pre-phase.
Vol+ /Vol-	Adjusts volume. In OSD menu, both keys are used to navigate within menu. Vol+ is used to select the highlighted options.
CH+/CH-	Adjusts channels. In OSD menu, both keys are used to navigate within the menu.
Source	Press to change the input sources.

Remote Control Guide

POWER – Turns the TV on or off.

MUTE – Mutes the TV's audio.

0~9 – Sets the channels.

Dash (-) – Inserts the dash for selecting digital channels directly.

R – Returns to the previous channel. GUIDE – Opens the current digital channel information guide.

SOURCE – Cycles between different inputs of the TV.

▲/▼/◄/►/↵ –Selects and moves the item on screen.

▲/▼ also functions as channel up and down.
◄/► also functions as volume up and down.
↵ acts as the Enter button for OSD menu and changing channels in conjunction with number buttons.

MENU – Opens / Exits the TV menu.

EXIT – Exits the TV menu.

SLEEP – Sets the Sleep timer. ASPECT – Selects different screen size.

ADD – Adds the current channel. FREEZE – Freezes the TV picture. CC – Cycles between different closed captioning modes.

DELETE – Deletes the current channel.

INFO – Shows the TV info.

MTS – Selects stereo, mono, or second audio programming.

FAVORITE – Cycles the favorite channels

PICTURE – Selects various preset picture settings

SOUND – Selects various preset sound settings

About the Water-Resistant Remote Control

The SunBriteTV™ All-Weather Outdoor Remote Control Model SB-RC23-WR is a water-resistant remote control that runs on two long-life lithium batteries. "Water-resistant" means that this remote control can be in water for short periods of time without damaging the internal workings of the unit. It can be left in the rain, and even dropped in water, as long as it is retrieved quickly. The remote control should not be left floating in water.

If the remote control is used properly, it will give you many years of service. The functionality of the remote control and the long-life lithium batteries are under warranty for one year.

If the remote control malfunctions or stops working within the one-year warranty period, SunBriteTV will repair or replace the remote control at SunBriteTV's option.

Do not attempt to replace the batteries yourself because the battery cover is sealed for water resistance. If the battery cover is removed, the warranty will become void.

If you have a warranty claim, contact the SunBriteTV Customer Support Team for further instructions.

OSD (On Screen Display) Controls

Via Remote Control

In order to adjust most of the options inside the On Screen Display (OSD), the picture below shows all the buttons used on the remote control.

▲ – This button changes the **channel to a higher number** and also functions as up direction in the OSD.

▼ – This button changes the **channel to a lower number** and also functions as down direction in the OSD.

◄ – This button **decreases the volume** and also functions as left direction in the OSD.

► – This button **increases the volume** and also functions as right direction in the OSD.

↵ – This button changes the channel in conjunction with the number pad and also functions as **enter** for selecting options in the OSD.

– This button opens the OSD and also exits the OSD by going to the previous level of the OSD.

– This button exits the OSD entirely.

Via the TV Front Panel Buttons

In order to provide more than one type of OSD control buttons, the side panel's buttons have also been made functional for adjusting the OSD.

MENU – This button opens the OSD.

CH(▲) – This button changes the channel to a higher number and also functions as up direction in the OSD.

CH(▼) – This button changes the channel to a lower number and also functions as down direction in the OSD.

VOL(+) – This button decreases the volume and functions as left direction in the OSD.

VOL(-) – This button decreases the volume and functions as right direction in the OSD.

OSD (On Screen Display) Options

CHANNEL – This main option has functions for the ATSC/NTSC port, such as scanning channels, editing channels, checking signal strength….etc.
PICTURE – This main option has functions for changing the picture settings for all ports, such as tint, contrast, sharpness, and dynamic noise reduction.
SOUND – This main option has functions for changing sound settings for all ports, such as digital audio out, treble, bass….etc.
FUNCTION – This main option has functions for only composite and ATSC/NTSC port. Some of the functions are closed captioning and channel blocking for parents.
SETUP – This main option has functions for all ports, such as power on / off time, sleep, menu language, menu opacity, emergency alert for emergency broadcasting system.

CHANNEL OPTION

This option chooses various antenna and cable functions. Extra functions include signal strength for digital signals and changing input via External Input function.

TUNER MODE – This function allows users to choose what connection the TV is accepting.

1. Press MENU to open the OSD and highlight CHANNEL.
2. Press ↵ or ► to move to the functions and highlight TUNER MODE.
3. Once in TUNER MODE, press ► again to select either AIR or CABLE.
4. Use ▲ or ▼ to select which connection you have then press ↵ to finalize the selection.

Please Note :

- If you are choosing cable, the default scanning mode is AUTO. Unless you know what cable system your cable company uses, please leave the tuner mode at AUTO.

AUTO SCAN – This function scans all the channels available from the ATSC/NTSC port.

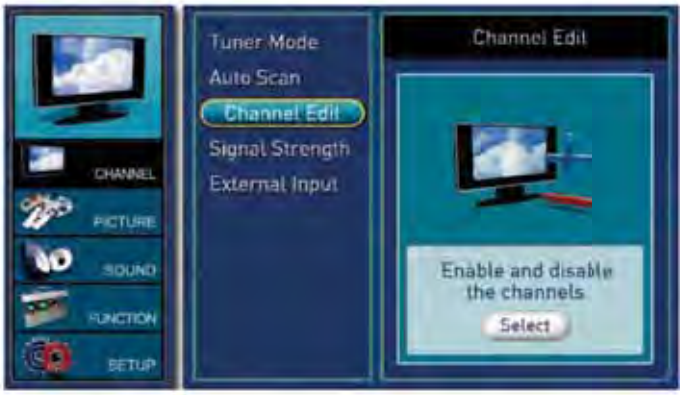
1. Press MENU to open the OSD and highlight CHANNEL.
2. Press ↵ or ► to move to the functions and highlight TUNER MODE.
3. Once in TUNER MODE, press ▼ to select AUTO SCAN.
4. Press ↵ twice to enter and begin scanning for channels.

Please Note :

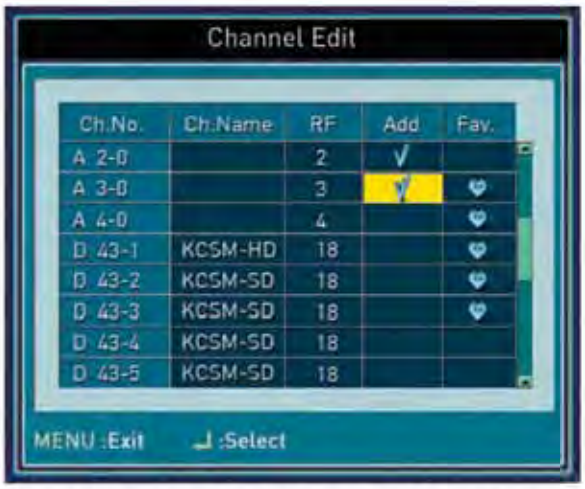
- Not all broadcasts are in High Definition (HD). Please refer to your local broadcasting stations for more information.

Adjusting On-Screen Displays – Channel Menu

CHANNEL EDIT – This function allows users to add, delete, or add to favorites, the TV's scanned in channels.



1. Press MENU to open the OSD and highlight CHANNEL.
2. Press ↵ or ► to move to the functions and highlight TUNER MODE.
3. Once in TUNER MODE, press ▼ repeatedly to select CHANNEL EDIT.
4. Press ↵ twice to enter start editing the scanned in channels.



5. You will be able to edit the channels by either deleting the channel or adding the channel to the favorites list.
   a. You can delete the channel by removing the ✓ from the ADD column.
      i. Match the channel you want to remove with the ▲▼◄► buttons in the ADD column then press ↵. If you do this, you will not be able to browse that channel until you go back into channel edit and add the ✓ back.
      ii. Press the MENU button to save and exit.
   b. You can add the channel to your favorite list by adding a ♥ in the FAV. column.
      i. Match the channel you want to add to favorites with the ▲▼◄► buttons in the FAV. column then press ↵. If you do this, the channel will be part of the sequential cycling list of the FAVORITE button on the remote control, until you go back into channel edit and remove the ♥.
      ii. Press the MENU button to save and exit.

SIGNAL STRENGTH – This function allows users to view their digital channel's signal strength.

1. Press MENU to open the OSD and highlight CHANNEL.
2. Press ↵ or ► to move to the functions and highlight TUNER MODE.
3. Once in TUNER MODE, press ▼ repeatedly to select SIGNAL STRENGTH.

Please Note :

- This function is only available if you are on a digital channel. This function will not work under analog channels.
- When using this function, the OSD menu will not auto exit.

EXTERNAL INPUT – This function allows users to change the current source to another

1. Press MENU to open the OSD and highlight CHANNEL.
2. Press ↵ or ► to move to the functions and highlight TUNER MODE.
3. Once in TUNER MODE, press ▼ repeatedly to select EXTERNAL INPUT.
4. Press ↵ to select the function and use ◄ or ► to change the source of your choice and press ↵ to finalize your selection.

Adjusting On-Screen Displays – Picture Menu

Picture Menu

This option allows users to adjust the TV's picture sharpness, color, tint, and other various functions.

PICTURE MODE – This function allows you to select the various picture modes of the TV from custom, standard, mild, to vivid.

1. Press MENU to open the OSD and highlight PICTURE by pressing the ▼ button.
2. Press ↵ or ► to move to the functions and highlight PICTURE MODE.
3. Press ↵ or ► to select PICTURE MODE function.
4. Use ▲ or ▼ to select which picture mode you want.
5. Press ↵ to confirm your selection.

Please Note :

- CUSTOM allows you to adjust all the settings to your personal preference.
- STANDARD is for watching regular TV.
- MILD is for watching movies.
- VIVID is for watching sports and HDTV programming.
- RECALL is not a picture mode but a function to restore any changes under CUSTOM picture mode back to its original factory settings.

BRIGHTNESS – This function adjusts the black level in a picture.

1. Press MENU to open the OSD and highlight PICTURE by pressing the ▼ button.
2. Press ↵ or ► to move to the functions and highlight PICTURE MODE.
3. Press ▼ to select BRIGHTNESS function and press ↵.
4. Use ◄ or ► to adjust the brightness level.

Please Note :

- This function can be reset back to default via the RECALL subfunction under PICTURE MODE.
- If the brightness is too high, the picture will look washed out, if the brightness is too low the picture will not have much detail in dark spots of the picture.

CONTRAST – This function adjusts the white levels in a picture.

1. Press MENU to open the OSD and highlight PICTURE by pressing the ▼ button.
2. Press ↵ or ► to move to the functions and highlight PICTURE MODE.
3. Press ▼ repeatedly to select CONTRAST function and press ↵.
4. Use ◄ or ► to adjust the contrast level.

Please Note :

- This function can be reset back to default via the RECALL subfunction under PICTURE MODE.
- If the contrast is too high, the picture will not have any details in bright parts of the picture. If the contrast is too low, the picture will look washed out.

SATURATION – This function adjusts how strong your picture's colors are going to be.

1. Press MENU to open the OSD and highlight PICTURE by pressing the ▼ button.
2. Press ↵ or ► to move to the functions and highlight PICTURE MODE.
3. Press ▼ repeatedly to select SATURATION function and press ↵.
4. Use ◄ or ► to adjust the saturation level.

Please Note :

- This function can be reset back to default via the RECALL subfunction under PICTURE MODE.

Adjusting On-Screen Displays – Picture Menu

SHARPNESS – This function adjusts how sharp objects in your pictures are.

1. Press MENU to open the OSD and highlight PICTURE by pressing the ▼ button.
2. Press ↵ or ► to move to the functions and highlight PICTURE MODE.
3. Press ▼ repeatedly to select SHARPNESS function and press ↵.
4. Use ◄ or ► to adjust the sharpness level.

Please Note :

- This function can be reset back to the default via the RECALL subfunction under PICTURE MODE.
- If the sharpness is adjusted too high, the picture will look overly pixilated. If the sharpness is adjusted too low, the picture will look blurry.

TINT – This function adjusts your picture's overall color with everything looking green on one end and everything looking red on the other.

1. Press MENU to open the OSD and highlight PICTURE by pressing the ▼ button.
2. Press ↵ or ► to move to the functions and highlight PICTURE MODE.
3. Press ▼ repeatedly to select TINT function and press ↵.
4. Use ◄ or ► to adjust the tint level.

Please Note :

- This function can be reset back to the default via the RECALL subfunction under PICTURE MODE.

RGB (RED, GREEN, BLUE) – This function adjusts the white color's overall balance of white colors in a picture. Each color, red, green, and blue will fine tune the overall white color's balance in small increments.

1. Press MENU to open the OSD and highlight PICTURE by pressing the ▼ button.
2. Press ↵ or ► to move to the functions and highlight PICTURE MODE.
3. Press ▼ repeatedly to select RGB function and press ↵.
4. Use ◄ or ► to adjust the RGB's 3 color levels level.
5. Use ▲ or ▼ to select the 3 colors; red, green, and blue.

Please Note :

- This function can be reset back to the default via the RECALL subfunction under PICTURE MODE.

COLOR TEMP. – This function adjusts the white color's overall balance of white colors in a picture. The function changes the white color's overall balance in large increments.

1. Press MENU to open the OSD and highlight PICTURE by pressing the ▼ button.
2. Press ↵ or ► to move to the functions and highlight PICTURE MODE.
3. Press ▼ repeatedly to select COLOR TEMP. function and press ↵.
4. Use ◄ or ► to adjust the color temperature level.
5. Press ↵ to finalize your selection.

Please Note :

- This function can be reset back to the default via the RECALL subfunction under PICTURE MODE.
- COOL – This option will produce a picture with overall bluish color.
- NORMAL – This option will produce a picture with normal white color.
- WARM – This option will produce a picture with overall reddish color.

DNR (DIGITAL NOISE REDUCTION) – This function reduces the amount of pixilation under analog TV channels. This function works for analog TV channels only.

1. Press MENU to open the OSD and highlight PICTURE by pressing the ▼ button.
2. Press ↵ or ► to move to the functions and highlight PICTURE MODE.
3. Press ▼ repeatedly to select DNR function and press ↵.
4. Use ◄ or ► to adjust the DNR in 3 levels (minimum, medium, and maximum).
5. Press ↵ to finalize your selection.

Please Note :

- This function can be reset back to the default via the RECALL subfunction under PICTURE MODE.
- This function works under analog TV channels only.

BACKLIGHT CONTROL – This function adjusts the LCD lamp's current. The current affects the brilliance of the picture.

1. Press MENU to open the OSD and highlight PICTURE by pressing the ▼ button.
2. Press ↵ or ► to move to the functions and highlight PICTURE MODE.
3. Press ▼ repeatedly to select BACKLIGHT CONTROL function and press ↵.
4. Use ◄ or ► to adjust the backlight level.

Please Note :

- The backlight level does not affect the brightness or the contrast of the picture. It just affects the brilliance of the picture.
- This function can be reset back to the default via the RECALL subfunction under PICTURE MODE.

Sound Menu

This option allows users to adjust the TV's sound functions, including sound mode, auto volume level, digital audio out..etc.

SOUND MODE – This function allows you to select various sound modes among custom, standard, movies, music, and speech.

1. Press MENU to open the OSD and highlight SOUND by pressing the ▼ button.
2. Press ↵ or ► to move to the functions and highlight SOUND MODE.
3. Press ↵ or ► to select SOUND MODE function.
4. Use ▲ or ▼ to select which sound mode you want.
5. Press ↵ to confirm you selection.

Please Note :

- This function can be reset back to the default via the RECALL subfunction under SOUND MODE.
- CUSTOM allows you to adjust the sound levels to your personal preference.
- STANDARD is for normal TV programs.
- MOVIES – is for watching movies.
- MUSIC – is for watching MTVs and concerts.

TREBLE – This function adjusts the level of high pitch sound in a TV.

1. Press MENU to open the OSD and highlight SOUND by pressing the ▼ button.
2. Press ↵ or ► to move to the functions and highlight SOUND MODE.
3. Press ▼ repeatedly to select TREBLE.
4. Press ↵ or ► to select the function.
5. Use ◄ or ► to adjust the level.

Please Note :

- This function can be reset back to the default via the RECALL subfunction under SOUND MODE.

BASS – This function adjusts the level of low pitch sound in a TV.

1. Press MENU to open the OSD and highlight SOUND by pressing the ▼ button.
2. Press ↵ or ► to move to the functions and highlight SOUND MODE.
3. Press ▼ repeatedly to select BASS.
4. Press ↵ or ► to select the function.
5. Use ◄ or ► to adjust the level.

Please Note :

- This function can be reset back to the default via the RECALL subfunction under SOUND MODE.

BALANCE – This function adjusts the balance of sound from left to right.

1. Press MENU to open the OSD and highlight SOUND by pressing the ▼ button.
2. Press ↵ or ► to move to the functions and highlight SOUND MODE.
3. Press ▼ repeatedly to select BALANCE.
4. Press ↵ or ► to select the function.
5. Use ◄ or ► to adjust the level.

Please Note :

- This function can be reset back to the default via the RECALL subfunction under SOUND MODE.

AVL (Auto Volume Level) – This function will enable an automatic balancing of sound when certain channels suddenly become over bearing.

1. Press MENU to open the OSD and highlight SOUND by pressing the ▼ button.
2. Press ↵ or ► to move to the functions and highlight SOUND MODE.
3. Press ▼ repeatedly to select AVL.
4. Press ↵ or ► to select the function.
5. Use ◄ or ► to enable or disable the auto volume level.

Please Note :

- This function can be reset back to the default via the RECALL subfunction under SOUND MODE.

AUDIO LANGUAGE – This function is for MTS (multi-channel television sound). It will change the spoken language of a TV program via SAP (secondary audio programming). The TV station will need to support the TV program in different languages in order for this function to work.

1. Press MENU to open the OSD and highlight SOUND by pressing the ▼ button.
2. Press ↵ or ► to move to the functions and highlight SOUND MODE.
3. Press ▼ repeatedly to select AUDIO LANGUAGE.
4. Press ↵ or ► to select the function.
5. Use ◄ or ► to switch between the languages.

Please Note :

- This function can be reset back to the default via the RECALL subfunction under SOUND MODE.
- This function is not always available. It is based upon the support of your local TV broadcasting station's signal. If the TV station does not support MTS/SAP, you will not be able to receive any alternative audio language. Please check with your local broadcasting stations for more information.

DIGITAL AUDIO OUT – This function enables the TV to output sound n 2 digital formats, PCM, and Bit Stream for digital home theater receivers.

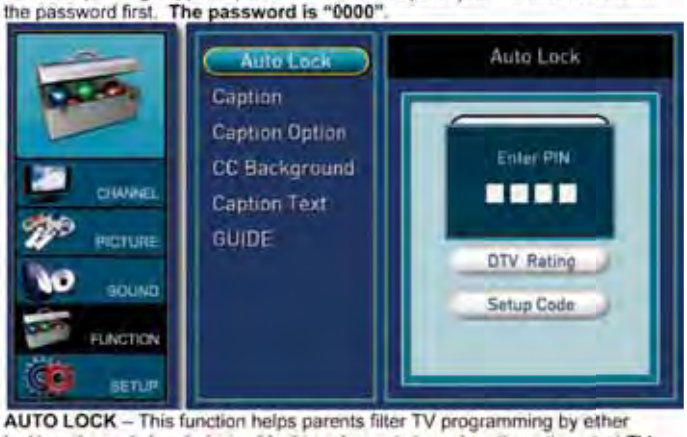
1. Press MENU to open the OSD and highlight SOUND by pressing the ▼ button.
2. Press ↵ or ► to move to the functions and highlight SOUND MODE.
3. Press ▼ repeatedly to select DIGITAL AUDIO OUT.
4. Press ↵ or ► to select the function.
5. Use ◄ or ► to select between the two options PCM and BITSTREAM.

Please Note :

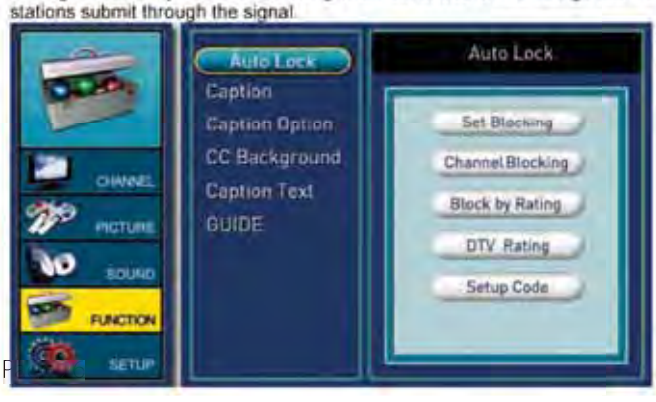
- PCM & BIT STREAM are two formats of digital sound. If you have a digital home theater system, you should use BIT STREAM for your digital audio out.
- Not all TV programming will give you digital surround sound. The sound signal is based on the TV broadcasting station's support. Please check with your local broadcasting stations for more information.
- This function can be reset back to the default via the RECALL subfunction under SOUND MODE.

Fu nction Menu

This option allows users to turn on TV program filters for children, and also closed captioning support options. To use this option you will need to enter in the password first. **The password is "0000".**



AUTO LOCK – This function helps parents filter TV programming by ether locking channels by choice or blocking channels based on the ratings that TV stations submit through the signal.



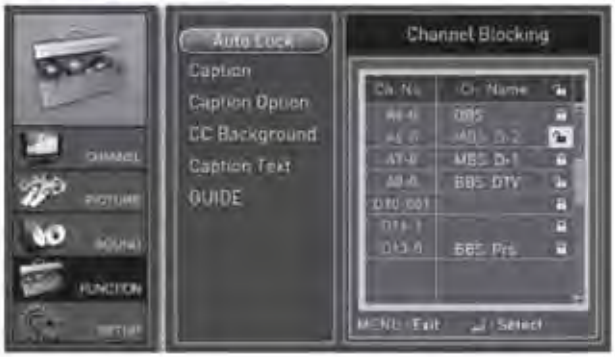
1. SET BLOCKING – This subfunction turns blocking from CHANNEL BLOCKING on or off.

a. Press MENU to open the OSD and highlight FUNCTION by pressing the ▼ button.
b. Press ↵ or ► to select the option and highlight AUTO LOCK.
c. Press ↵ to select the function.
d. Use ↵ or ► to select SET BLOCKING.
e. **Enter "0000" as the default password.**
f. Press ↵ to select the function.
g. Use ▲ or ▼ to choose the option you want and press ↵ to select.

Please Note :

- Turning the subfunction on will enable the CHANNEL BLOCKING FUNCTION. Turning the subfunction off will disable the CHANNEL BLOCKING FUNCTION.
- You can also disable the function by pressing in the password.

2. CHANNEL BLOCKING – This subfunction blocks channels by selecting them off a channel list.



a. Press MENU to open the OSD and highlight FUNCTION by pressing the ▼ button.
b. Press ↵ or ► to select the functions and highlight AUTO LOCK.
c. Press ↵ to select the function.
d. Press ▼ to select CHANNEL BLOCKING.
e. Press ↵ to select the function.
f. Highlight the channel you want to lock by using ▲ or ▼ buttons.
g. Lock or unlock the channel by pressing the ↵ button.
   i. If a channel is locked it would have the 🔒 symbol.
   ii. If a channel is unlocked it would have the 🔓 symbol.

Please Note :

- This function will only work if SET BLOCKING subfunction is turned on.
- You can disable the function during channel browsing when it asks you for the auto lock password.
- The default auto lock password is **"0000"**.

3. BLOCK BY RATING – This subfunction blocks channels by reading each channel's TV program or movie rating.

a. Press MENU to open the OSD and highlight FUNCTION by pressing the ▼ button.
b. Press ↵ or ► to select the functions and highlight AUTO LOCK.
c. Press ↵ to select the function.
a. Press ▼ until you see BLOCK BY RATING and use ↵ to select BLOCK BY RATING.
b. You can block movies by selecting the ratings under MPAA and TV shows under TV Parental Guidelines.
   i. Use ▲▼◄► to move to the ratings you want to block.
   ii. Press ↵ to block or unblock. If a rating is locked it would have the 🔒 symbol. If a rating is unlocked it would have the 🔓 symbol.

Please Note :

- This type of filtering for children watching TV will not always work since the ratings signal is dependent on whether the TV station sends the signal or not and whether the TV receives the ratings signal or not. For better assurance

4. DTV RATING – This subfunction gathers all digital channels's programming rating.

a. Press MENU to open the OSD and highlight FUNCTION by pressing the ▼ button.
b. Press ↵ or ► to select the functions and highlight AUTO LOCK.
c. Press ↵ to select the function.
d. Press ▼ until you see DTV RATING and use ↵ to select it.
e. Press ↵ again to begin scanning for DTV ratings.

Please Note :

- This type of ratings for children watching TV will not always work since the ratings signal is dependent on whether the TV station sends the signal or not and whether the TV receives the ratings signal or not. For better assurance please use the CHANNEL BLOCKING subfunction.

5. SETUP CODE – This subfunction sets the password.

a. Press MENU to open the OSD and highlight FUNCTION by pressing the ▼ button.
b. Press ↵ or ► to select the functions and highlight AUTO LOCK.
c. Press ↵ to select the function.
d. Press ▼ until you see SETUP CODE and use ↵ to select it
e. Input **"0000"** as your password and input your new password.

Please Note :

- There is no way of resetting the password.
- If you're going to change the password, please write it down and keep it in a safe place just in case you forget.

CAPTION – This function shows closed caption of TV programs.

1. Press MENU to open the OSD and highlight FUNCTION by pressing the ▼ button.
2. Press ↵ or ► to select the functions and highlight AUTO LOCK.
3. Press ▼ until you see CAPTION and use ↵ to select it.
4. Use ▲▼◄► to select the option you want.
5. US stations usually use CC1 for analog and CS1 for digital closed captioning.
6. Other CC and CS services do not apply to TV captioning inside US.
7. TT refers to text boxes that display the TV channel's extra information.

Please Note :

- Analog and digital closed captioning will automatically switch for you when you switch channels.
- Not all TV programs support closed captioning. This function depends on the TV station to support the signal with captioning. For more information please contact your TV broadcasting stations.
- TT box information may or may not display any related info to the TV program you are watching

CAPTION OPTION – This function locks or unlocks options you can use to adjust the way your digital caption is displayed.

1. Press MENU to open the OSD and highlight FUNCTION by pressing the ▼ button.
2. Press ↵ or ► to select the functions and highlight AUTO LOCK.
3. Press ▼ until you see CAPTION OPTION and use ↵ to select it.
4. Use ◄ or ► to select the option you want.
5. AUTO locks up the functions CC BACKGROUND and CAPTION TEXT.
6. OPTIONS unlocks the functions CC BACKGROUND and CAPTION TEXT.

Please Note :

- Only digital station's closed captioning will be affected by this function. If you are on an analog TV channel, the caption will remain the same as before.

CC BACKGROUND – This function adjusts digital channel's closed captioning background.

1. Press MENU to open the OSD and highlight FUNCTION by pressing the ▼ button.
2. Press ↵ or ► to select the functions and highlight AUTO LOCK.
3. Press ▼ until you see CC BACKGROUND and use ↵ to select it.
4. Use ▲▼◄► to select the option you want.
5. The normal closed captioning defaults to a solid black background with white color text.
6. COLOR adjusts the background color.
7. OPACITY adjusts how transparent or solid you want the background color to be.

Please Note :

- This function only works under digital channels. If you are on an analog channel this function will default to the regular black background with white text.

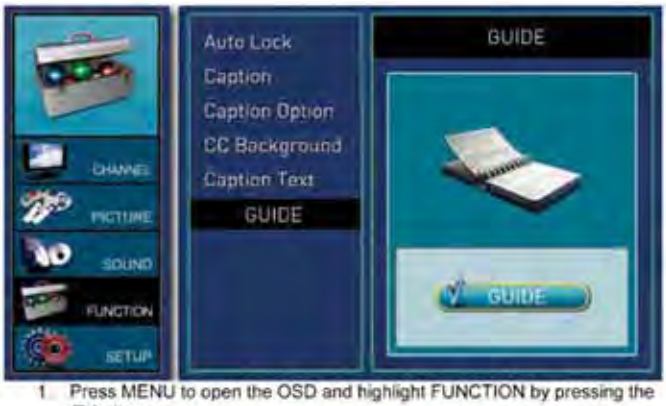
CAPTION TEXT – This function adjusts digital channel's closed captioning text styles.

1. Press MENU to open the OSD and highlight FUNCTION by pressing the ▼ button.
2. Press ↵ or ► to select the functions and highlight AUTO LOCK.
3. Press ▼ until you see CAPTION TEXT and use ↵ to select it.
4. Use ▲▼◄► to select the options you want.
5. The normal closed captioning defaults to a solid black background with white color text.
6. CAPTION SIZE changes the font size of the text.
7. CAPTION STYLE changes the font style of the text.
8. TEXT COLOR changes the font color of the text.
9. TEXT OPACITY changes the caption text from transparent to solid.
10. EDGE STYLE enhances a caption text's visibility by adding a 3 dimensional detail to the text. There are various options to this subfunction.
11. EDGE COLOR changes the 3 dimensional effect's color.
12. ITALIC makes the caption text look slanted.
13. UNDERLINE puts a line across the bottom of the caption text.

Please Note :

- These options only work under digital channels. If you are on an analog channel this function will default to the regular black background with white text.

GUIDE – This function shows you detailed information about your current digital channel's programming and the entire day's program list.



1. Press MENU to open the OSD and highlight FUNCTION by pressing the ▼ button.
2. Press ↵ or ► to select the functions and highlight AUTO LOCK.
3. Press ▼ until you see GUIDE and use ↵ twice to select it.

Set-Up Menu

This main option has functions that allows users to power the TV on or off at a specific time and date, adjusting PC resolutions for VGA cards, and changing time and date for the TV.

DATE / TIME – This function adjusts the time and date.

1. Press MENU to open the OSD and highlight SETUP by pressing the ▼ button.
2. Press ↵ or ► to select the functions and highlight DATE/TIME.
3. Press ↵ to select the function.
4. Use ▲▼◄► to select the options.
5. MANUAL allows you to choose your own time and date.
6. AUTO makes the TV receive time from TV station's broadcasting signals.
7. You can select the time zone of your TV and also whether you observe daylight savings time or not.

Please Note :

- The AUTO DATE/TIME feature only works under digital antenna channels. If you are on an analog antenna, analog cable, or digital cable channel, you will have to manually set the time.

POWER ON TIME – This function automatically turns the TV on to a specific channel at a set specific time and date.

1. Press MENU to open the OSD and highlight SETUP by pressing the ▼ button.
2. Press ↵ or ► to select the functions and highlight DATE/TIME.
3. Press ▼ to select POWER ON TIME and press ↵.
4. Use ▲▼◄► to select the options.
5. You choose the time, date, and channel.
6. After you have finished setting up the time, date, and channel, please choose if you want this option to turn on the TV daily or once only.
7. Select ACTIVATE and press ↵.

Please Note :

- This function is only for turning on the TV. If you do not setup POWER OFF TIME function, the TV will never turn itself off. If you are going on vacation for a long time, please do not forget to set the function POWER OFF TIME.

POWER OFF TIME – This function automatically turns the TV off at a set specific time and date.

1. Press MENU to open the OSD and highlight SETUP by pressing the ▼ button.
2. Press ↵ or ► to select the functions and highlight DATE/TIME.
3. Press ▼ repeatedly until you select POWER OFF TIME and press ↵.
4. Use ▲▼◄► to select the options.
5. You choose the time, and date.
6. After you have finished setting up the time, and date, please choose if you want this option to turn on the TV daily or once only.
7. Select ACTIVATE and press ↵.

SLEEP – This function makes the TV turn itself off after a set number of minutes.

1. Press MENU to open the OSD and highlight SETUP by pressing the ▼ button.
2. Press ↵ or ► to select the functions and highlight DATE/TIME.
3. Press ▼ repeatedly until you select SLEEP and press ↵.
4. Use ▲ or ▼ to select how many minutes you want the TV to be on and press ↵.
5. Once selected the TV will begin counting the minutes immediately.

MENU LANGUAGE – This function changes the entire OSD's language.

1. Press MENU to open the OSD and highlight SETUP by pressing the ▼ button.
2. Press ↵ or ► to select the functions and highlight DATE/TIME.
3. Press ▼ repeatedly until you select MENU LANGUAGE and press ↵.
4. Use ◄ or ► to select language you want the TV to display the OSD in and press ↵.
5. Once selected the TV will display the language of your choice.

MENU OPACITY – This function changes the OSD menu's visual from transparent to solid.

1. Press MENU to open the OSD and highlight SETUP by pressing the ▼ button.
2. Press ↵ or ► to select the functions and highlight DATE/TIME.
3. Press ▼ repeatedly until you select MENU OPACITY and press ↵.
4. Use ◄ or ► to select how transparent or solid you want to display the OSD in and press ↵.

EMERGENCY ALERT – This function adjusts options regarding your local emergency broadcasting service.

1. Press MENU to open the OSD and highlight SETUP by pressing the ▼ button.
2. Press ↵ or ► to select the functions and highlight DATE/TIME.
3. Press ▼ repeatedly until you select EMERGENCY ALERT and press ↵.
4. Use ▲▼◄► to select if you want to display medium or low emergency alerts in your local area and press ↵.

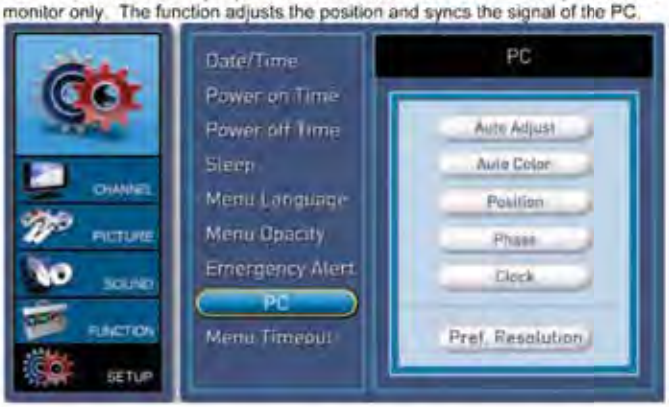
Please Note :

- This function is dependent on your local TV station's support. If your local TV stations do not support such function, EMERGENCY ALERT will not work.

MENU TIMEOUT – This function adjusts how long the menu will be on the screen when you're not using it.

1. Press MENU to open the OSD and highlight SETUP by pressing the ▼ button.
2. Press ↵ or ► to select the functions and highlight DATE/TIME.
3. Press ▼ repeatedly until you select MENU TIMEOUT and press ↵.
4. Use ▲ or ▼ to select how long you want the OSD to display when it is idle.
5. Please finalize the selection by pressing ↵.

PC – This function is for people who use the X23 LCD HDTV's VGA port as a PC monitor only. The function adjusts the position and syncs the signal of the PC.



1. Press MENU to open the OSD and highlight SETUP by pressing the ▼ button.
2. Press ↵ or ► to select the functions and highlight DATE/TIME.
3. Press ▼ repeatedly until you select PC and press ↵.
4. Use ▲ or ▼ to select the subfunction you want and press ↵.
5. AUTO ADJUST is a typical LCD monitor's auto adjust function. It syncs to the signal of the VGA card and auto adjusts the clock and phase of the signal so your picture comes out clear and centered.
6. AUTO COLOR adjusts and balances the color of the X23 as a PC monitor.
7. POSITION moves the PC screen picture up, down, left or right.

8. PHASE adjusts the video signal in a small increment to sync with the PC.
9. CLOCK adjusts the video signal in a large increment to sync with the PC.
10. PREF. RESOLUTION is a special function for three specific resolutions. They are 1360x768 at 60hz refresh rate, 1024x768 at 60hz refresh rate, and 1280x768 at 60hz refresh rate. If you are using these three resolutions, you will need to set the screen to those resolutions using this function. To set them, change your PC side resolution first, and then select this function.

Please Note :

- The X23 LCD HDTV's native PC resolution is 1360x768 at 60hz.
- It is always suggested to use the native PC resolution over other resolutions. If your video card cannot select the native please use 1280x768 at 60hz as your resolution. 1360x768 and 1280x768 are the only two widescreen resolutions recommended for usage.
- Always try to use AUTO ADJUST over PHASE and CLOCK manual adjustments.

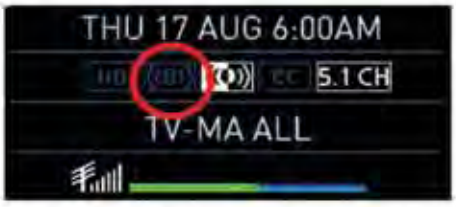
Information Banner

The info banner is a banner that shows TV programming info on the top portion of your TV. This function is only available when you use the ATSC/NTSC tuner port.

The info banner's left side shows you typical programming information such as TV station name, number, program name, date, and times the show starts and ends.

The info banner's right side shows you the TV's display information such as HD (High Definition) or SD (regular TV) mode, stereo sound, closed captioning, and digital surround sound.

- **HD or SD** – If highlighted this symbol shows you whether the channel you are watching is in HD (High Definition) or Standard Definition (regular TV).



((S)) – If Highlighted this symbol shows you that the channel you are watching is in stereo sound.

- ((S)) If highlighted this symbol shows you are using the SAP (secondary audio programming) function from the TV channel. You can do so via the MTS button on the remote control. Please Note : This function is always active under analog stations whether the station supports this function or not.

- **CC** – If highlighted, this symbol tells you that this channel supports closed captioning.

- **5.1 CH** – If highlighted this symbol tells you that this channel supports 5.1 channel digital surround sound.

- **TV-MA ALL** – This is a type of TV rating. This section tells you the TV ratings of the program you are watching. Please refer to ratings explained for more information on ratings.

- This symbol and the indicator bar show you how strong your current channel's signal is. This function is only available under digital channels.

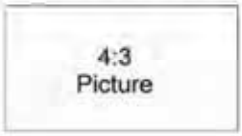
Aspect Ratio

The TV will display the TV channel's signal format automatically. There are mainly two types of signal format, 16:9 and 4:3.

1. **16:9 Wide**
   This mode will stretch the picture to a widescreen ratio. If you have a perfect 16:9 ratio picture you will not see any black bars. If you are watching a widescreen movie in 1.85:1 or 2.35:1 ratio, you will still get black bars on the top and bottom of the screen.

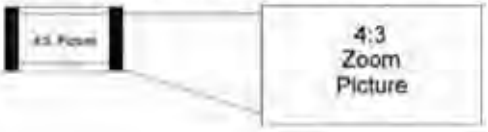
2. **16:9 Normal**
   This mode will squeeze a 16:9 picture into a 4:3 format with black bars on the side.

3. **4:3 Wide**
   Most analog TV channels have 4:3 signal formats. If the original 4:3 aspect ratio (1.33:1 source) is preserved, black bars are added to the left and right of the display image. This aspect stretches the picture to fill up the screen so that the black bars will not be present. Please Note : You will receive a distorted image when selecting this mode.



4. **4:3 Normal**
   Most analog TV channels have 4:3 signal formats. If the original 4:3 aspect ratio (1.33:1 source) is preserved, black bars are added to the left and right of the display image. This aspect keeps that aspect ratio and shows you the black bars on the side.

5. **4:3 Zoom**
   When watching a 4:3 aspect ratio TV or movie, this mode zooms in to cut off most of the black bars on the side while preserving the 16:9 ratio. Because of the zoom, the top and bottom are cut off as well. Please Note : When in HD mode aspect ratios will not work because it is controlled by the signal.



Ratings

General Operation

To block channels you don't want your children to watch, you can filter them with the ratings function. MPAA lets you control ratings for movies. For regular TV programs you can use USTV settings. USTV settings lets you filter what content you want at each age level, TV-Y, to TV-MA (refer to definitions below). Below are definitions for each setting.

USTV Rating

TV-Y (USTV) – For All Children
This program is designed to be appropriate for all children. Whether animated or live-action, the themes and elements in this program are specifically designed for a very young audience, including children from ages 2-6. This program is not expected to frighten younger children.

TV-Y7 (USTV) – Directed to Older Children
This program is designed for children age 7 and above. It may be more appropriate for children who have acquired the developmental skills needed to distinguish between make-believe and reality. Themes and elements in this program may include mild fantasy violence or comedic violence, or may frighten children under the age of 7. Therefore, parents may want to consider the suitability of this program for their very young children. Note: For those programs where fantasy violence may be more intense or more combative than other programs in this category, such programs will be designated TV-Y7-FV.

TV-G (USTV) – General Audience
Most parents would find this program suitable for all ages. Although this rating does not signify a program designed specifically for children, most parents may let younger children watch this program unattended. It contains little or no violence, no strong language and little or no sexual dialogue or situations.

TV-PG (USTV) – Parental Guidance Suggested
This program contains material that parents may find unsuitable for younger children. Many parents may want to watch it with their younger children. The theme itself may call for parental guidance and/or the program contains one or more of the following: moderate violence (V), some sexual situations (S), infrequent coarse language (L), or some suggestive dialogue (D).

TV-14 (USTV) – Parents Strongly Cautioned
This program contains some material that many parents would find unsuitable for children less than 14 years of age. Parents are strongly urged to exercise greater care in monitoring this program and are cautioned against letting children under the age of 14 watches unattended. This program contains one or more of the following: intense violence (V), intense sexual situations (S), strong coarse language (L), or intensely suggestive dialogue (D).

TV-MA (USTV) – Mature Audience Only
This program is specifically designed to be viewed by adults and therefore may be unsuitable for children under 17. This program contains one or more of the

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This program is specifically designed to be viewed by adults and therefore may be unsuitable for children under 17. This program contains one or more of the

Closed Caption

- Your TV is equipped with an internal Closed Caption decoder. It allows you to view conversations, narration and sound effects as subtitles on your TV. Closed Captions are available on most TV program, and on some VHS home video tapes, at the election of the program provider.

- Digital Closed Caption service is a new caption service available on digital TV programs (also at the election of the service provider). It is a more flexible system than the original Closed Caption system, because it allows a variety of caption sizes and font styles.

- Not all programs and VHS video tapes offer closed caption. Please look for the CC symbol to ensure that captions will be shown.

- In the Closed Caption system, there can be more than one caption service provided. Each is identified by its own number. The CC1 and

  CC2 services display subtitles of TV programs superimposed over the program's picture.

- In the Closed Caption system, the TEXT1 or TEXT2 services display text that is unrelated to the program being viewed (e.g., weather or news). These services are also superimposed over the program currently being viewed.

Trouble Shooting

The following table contains the common problems and the solutions to these problems. Please check this list before you contact the technicians.

Problems	Solutions
NO PICTURE	Connect power cord correctly.
	Turn on power.
	Connect video cable correctly.
	Select the input signal source with proper cable connecton with the source button.
ABNORMAL COLORS	Match the colors on the cables to the ports off the back of the television. I.E. red cable to red colored port.
PICTURE IS TOO DARK	Adjust your contrast, brightness and lamp settings from the OSD Menu.
AUDIO ONLY NO PICTURE	Make sure you have connected both your video and audio cables.
	The TV's tuner signal must not be lower than 65 dB.
PICTURE ONLY NO AUDIO	Make sure the audio cable is connected.
	Readjust your volume via the remote control.
	The TV's tuner signal must not be lower than 65 dB.
REMOTE CONTROL DOES NOT WORK	Turn off the TV, unplug it from the socket. Remove the batteries out of the remote for 30 minutes. Press the remote buttons and the power button randomly for a good 2 seconds, and then reinstall the batteries. Try the remote to see if it works.
	The TV's remote sensor is also housed in the same place as the power indicator light. Please make sure there is line of sight from the remote control's front sensor to the remote sensor of the TV.
CANNOT RECEIVE SUFFICIENT CHANNELS THROUGH THE ATSC/NTSC TUNER	The TV's tuner signal must not be lower than 65 dB. Change the direction of your antenna and rescan your channels. If you have cable call up your cable company and ask about signal strength of your local cable.
NO COLOR	Please adjust your picture setup and make sure the saturation and the RGB are not turned all the way down.
	The TV's tuner signal must not be lower than 65 dB. Check your signal.
WEAK SIGNAL OR NO PROGRAM SYMBOL ON SCREEN	The TV's tuner signal must not be lower than 65 dB. Change the direction of your antenna and rescan your channels. If you have cable call up your cable company and ask about signal strength of your local cable.
TV CHANNELS ARE BLOCKED	Check your auto lock function's settings inside the OSD. You may have locked up some channels but forgot about them.
UNIVERSAL REMOTE CODE	This TV follows SONY's universal remote code. Please check your hand book for SONY's codes then apply them.
THE TV TURNS ON OR OFF SLOWLY AND THE SCREEN SHOWS UP SLOWLY	This TV is a High Definition liquid crystal display panel TV. It requires a few more seconds than normal TVs to power up and show the picture.
NO SOUND ON PC	Make sure you have a 3.5 mm mini-jack cable connected from your pc's sound output to the TV's VGA STEREO INPUT.

Problems	Solutions
HDCP VIDEO SAYS NO HDCP SUPPORT	Reboot your HDCP video device but turning them off and unplugging the power cord. Wait up to 8 minutes to plug the power back in to see if it works or not.
HDCP VIDEO HAS NO AUDIO	Make sure you have a 3.5 mm mini-jack cable connected from your HDCP video device's sound output to the TV's VGA STEREO INPUT. If your HDCP video device uses RCA AUDIO jacks, you'll need to obtain a RCA audio converted into 3.5 mm mini-jack cable.
CANNOT GET 1366X768 ON PC VGA	Although the screen's max resolution is 1366x768, no video card maker can support such resolution. The industry standard for similar resolution support is 1360x768. Please use that as you resolution.
PICTURE IS DISTORTED OR HAS ABNORMAL SOUND	This might be from interference from large electrical appliances, cars, motorcycles, or fluorescent lights. If the TV is close to the wall, try moving the TV to another room in your house to see if the problem still occurs.
PICTURE DOES NOT COVER THE ENTIRE SCREEN	If you're using HDMI or a TV digital channel make sure you use the ASPECT button to switch to 16:9 WIDE format. If you are using VGA, use the AUTO ADJUST function to adjust to the screen. Please Note: If you are using 1360x768 or 1280x768 you must also use the PREF. RESOLUTION function to adjust to the screen as well. If you are using regular analog TV, AV1, or component in 480i resolution, use the ASPECT button to switch to 4:3 WIDE in order to fill up the screen. Please Note: This note this feature will distort the picture.
SWITCHING A CHANNEL OR SOURCE CHANGES THE VOLUME	Different channels and inputs will sometimes have this effect because the channel signal's own volume is already loud. There is no way remove this completely. The TV has an AUTO VOLUME LEVEL function that can combat this type of effect. Please make sure that function is turned on.
THERE IS NOISE OR TRASH PIXELS ON THE SCREEN	When your LCD HDTV's resolution is higher than the digital channel's broadcast resolution, the signal is up-converted to match your TV's resolution. Up-converting can cause this type of effect.
I CANNOT FIND THE VOLUME AND CHANNEL CHANGING BUTTONS	The buttons are represented by the ▲▼◄► buttons located on the remote control. ▲▼ changes the channels and ◄► changes the volume.
I CANNOT FIND ENTER BUTTON	The enter button has the symbol ↵. It is located in the center of the ▲▼◄► buttons.

Care of SunBriteTV

Cleaning Instructions for the SunBriteTV

General Cleaning
Use a soft cloth with mild detergent in warm water to clean the SunBriteTV screen. Remove any dirt and salt deposits from the unit, being careful to rinse the cloth frequently to avoid scratching the screen surface. Avoid using harsh chemicals, abrasives, or solvents when cleaning any surface on the unit.

Snow and Ice
Use a soft brush and towel to remove snow and ice from the unit.

Fiber Filters
In areas where dust or salt air is prevalent, it is recommended that the Fiber Filter be cleaned regularly.

Figure 1

1. The Fiber Filter is located on the back of the unit, inside the Intake Vent (Figure 1).

2. Using a narrow object (such as a pen), manipulate the Fiber Filter from the Intake Vent, and pull it out with your fingers (Figures 2 and 3).

3. Wash the Fiber Filter, using mild detergent and warm water. After rinsing, let the Fiber Filter dry completely.

4. Place Fiber Filter back into the Intake Vent by inserting the Cut-in Fiber Filter area first (Figure 4), then push the the rest of the Fiber Filter gently with your fingers.

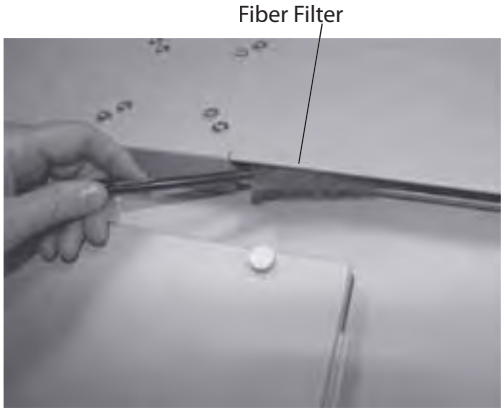


Figure 2

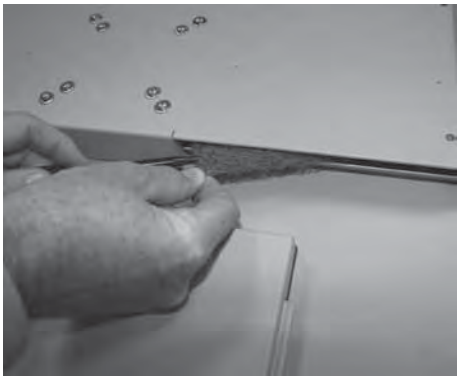


Figure 3

Figure 4

Internal Thermostatically-Controlled Heater

The Internal Thermostatically-Controlled Heater keeps the unit warm in freezing temperatures and activates automatically when the SunBriteTV internal temperature sensor reads a temperature inside the unit of 32^{O} F. or lower. The heater remains on until the internal temperature rises to at least 42^{O} F. The heater provides a 20^{O} F. temperature rise, allowing the TV to safely remain in temperatures as low as -24^{O} F. The ventilation fans are not activated when the heater is running and will automatically activate when required.

If temperatures below -24^{O} F. are expected, we recommend that you bring your SunBriteTV inside to prevent damage to the LCD screen.

Note: *In order for the automatic heater to work properly, your SunBriteTV must have power applied at all times.*

Specifications

LCD Screen	23-inch (584.2mm) diagonal TFT Active Matrix
Resolution	1366 x 768
Aspect Ratio	16:9
Contrast Ratio	700:1
H/V Viewing Angle	160º by 140º
Response Time	8 milliseconds
TV Formats	1080i, 720p, 480i, 480p
Input Connectors:	
RF	Antenna/CATV (NTSC, ATSC, QAM)
HDMI	HDMI Input x 2
Video Composite	S-Video x1 and Composite Video x1, L/R Audio Inputs x1
Video Component	YPbPr x1 plus Stereo Audio x 2
PC	15-pin D-sub VGA plus Stereo Audio
Control Set	RS232 Serial and Discrete IR Control *(Model 2310-Pro only)*
Audio Out	SPDIF Audio, Analog Headphone Jack
Speakers	5-watt x 2 channels, water resistant built-in speakers
Exterior	Powder-coated aluminum
Input Power	100-240 VAC, 50-60 Hz 2.2A Max
Operating Temp.	-31º to 50º C. (-24º to 122º F.)*
Non-op. Temp. (Off-mode with power applied)	-31º to 60º C. (-24º to 140ºF.) The non-operating temperature feature requires power to be applied
Accessories Included	Water-resistant remote control with lithium battery Removable table top stand
TV Dimensions	597mm (W) x 413mm (H) x124mm (D)
Weight	10kg, 11kg with feet
Shipping Dimensions	770mm (W) x 495mm (H) x 225mm (D)
Shipping Weight	13 kg
Warranty	One-year, in-factory, parts and labor

*Temperature range is for operation in shaded location. Specifications may be subject to change.

Patent pending. All rights reserved. (C) 2009 SunBriteTV® LLC

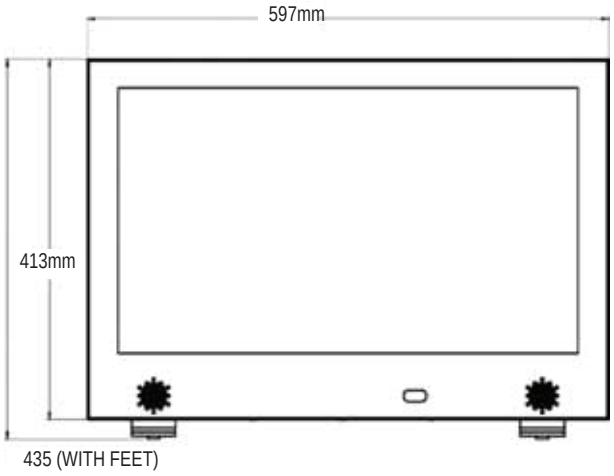
Under all conditions, the LCD TV should be installed in a shaded area where the screen is not facing direct sunlight (or placed/mounted where the TV can easily be turned away from direct sunlight).

Optional Accessories

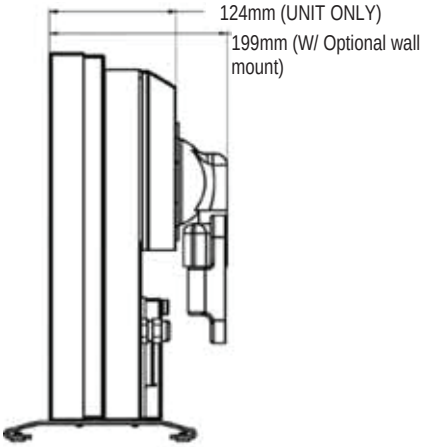
SB-CM20	Ceiling mount with the tilt, includes adjustable extension column that provides 5" to 11" above unit ceiling. Also includes 100mm x100mm designer ceiling plate. Meets VESA standards.
SB-WM23	Articulating wall mount with tilt, swivel, pan and extends up to 229mm from wall. Meets VESA standards.
SB-DP2332X	Deck/Planter pole (requires purchase of wall mount). Sperial order item.
SB-FMT23	RadioFM™, Transmits audio from TV to FM radio
SB-DC23	Outdoor TV dust cover

Front View

(All dimensions are in mm)



Side View



TV Dimensions are:
597mm (W) x 413mm (H) x 124mm (D)
Height dimension with table stand is 435mm
TV with optional wall mount measures 193mm when folded flush against the wall.

Timing Modes

Source	Resolution	Vertical frequency (Hz)
YPbPr	480p	59.94
	720p	60
	1080i	30
VGA	640x480	60
		75
	800 x 600	60
		75
	1024 x 768	60
		75
	1280 x 768	60
	1360 x 768	60

Programming Other Manufacturers' Universal Remote Control Devices

When programming a DirectTV, Crestron, or Local Cable universal remote control, SunBriteTV may not be on the list of TV manufacturers. If that is the case, Model 2310HD supports SONY's universal remote code.

SunBriteTV Pixel Quality Policy

SunBriteTV's Pixel Quality Policy
(Applicable to LCD TVs sold within USA and Canada only.)

SunBriteTV™ LCD screens are manufactured with rigorous standards to maintain optimal viewing. However, the LCD screen may have minor defects that appear as a small bright or dark pixel. This is common to all LCD screens used in display and television products, and is not specific to SunBriteTV.

Bright dots are dots that appear bright and unchanged in size when a LCD TV screen displays a black pattern.

Dark dots are dots that appear dark and unchanged in size when a LCD TV screen displays a pure red, green, or blue pattern.

Adjacent dots are pixels located directly next to each other.

Your SunBriteTV will be replaced under warranty if it meets one of the following criteria:

—A total of 7 defective pixels, including both bright dots and dark dots are present. (Model 2300HD LCD TV screen has over a million pixels.)

—2 or more pairs of adjacent bright dots are present.

—3 adjacent bright dots are present.

—3 adjacent dark dots are present.

To locate defective pixels, the LCD panel should be examined under normal operating conditions, in its native display resolution, with a 90-degree viewing angle, from a distance of a approximately 20 inches.

To qualify for replacement, a defective LCD screen must be reported to SunBriteTV within 14 days from the day the customer receives the TV.

Warranty Policy:

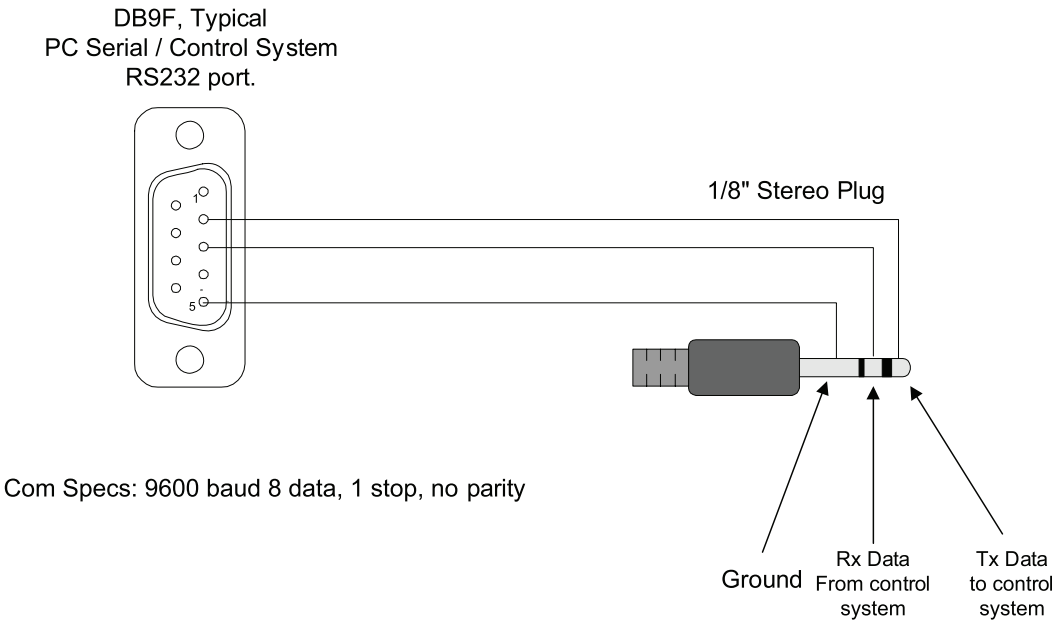
1 full year in-factory parts and labor for standard use of up to 10 hours per d
warranty is 6 months. Extended warranties are available.

For questions, please call at 1300 730 025

RS 232 Control code

RS 232 Control codes for Sunbrite SB2310A outdoor LCD TV

Function			Command Received Response from TV to control system	Command Executed Response from TV to control system
	ASCII	HEX		
Firmware Version Number	[ESC]?	1B 3F	[B2310AHD-X.XX]	na
Power Status	[ESC]!	1B 21	**[PWRON]**	na
			[PWROFF]	
Power ON	[ESC]A	1B 41	[A]	[PWRON]
Power OFF	[ESC]B	1B 42	[B]	[PWROFF]
Tuner Input	[ESC]C	1B 43	[C]	[TN1]
Composite Video Input	[ESC]D	1B 44	[D]	[AV1(CVBS)]
S-Video Input	[ESC]E	1B 45	[E]	[AV1(S-VIDEO)]
Component1 Input	[ESC]H	1B 46	[H]	[YpbPr1]
Component2 Input	[ESC]I	1B 47	[I]	[YpbPr2]
HDMI Input	[ESC]J	1B 48	[J]	[HDMI1]
VGA Input	[ESC]K	1B 49	[K]	[VGA]
Mute	[ESC]X	1B 58	[X]	[MUTE]
Vol Up	[ESC]Y	1B 59	[Y]	[VOL+]
Vol Down	[ESC]Z	1B 5A	[Z]	[VOL-]
Channel Up	[ESC]V	1B 56	[V]	[CH+]
Channel Down	[ESC]W	1B 57	[W]	[CH-]
1	[ESC]1	1B 31	[1]	na
2	[ESC]2	1B 32	[2]	na
3	[ESC]3	1B 33	[3]	na
4	[ESC]4	1B 34	[4]	na
5	[ESC]5	1B 35	[5]	na
6	[ESC]6	1B 36	[6]	na
7	[ESC]7	1B 37	[7]	na
8	[ESC]8	1B 38	[8]	na
9	[ESC]9	1B 39	[9]	na
0	[ESC]0	1B 30	[0]	na
-	[ESC]-	1B 2D	[-]	na
Channel Return(Previous Channel)	[ESC]r	1B 72	[r]	na
Source Toggle	[ESC]b	1B 62	[SRC]	na
Aspect	[ESC]a	1B 61	[ASPECT]	na
Enter	[ESC]e	1B 65	[ENTER]	na
Info	[ESC]i	1B 69	[INFO]	na
CC	[ESC]c	1B 63	[CC]	na
Sleep	[ESC]z	1B 7A	[SLEEP]	na
Picture	[ESC]p	1B 70	[PICT]	na
Sound	[ESC]s	1B 73	[SND]	na



	SunbriteTV RS232 Control Cable			
July 17 2007 Preliminary	SIZE	FSCM NO	DWG NO	REV A1
	SCALE		SHEET 1 OF 1	